

FIG.2

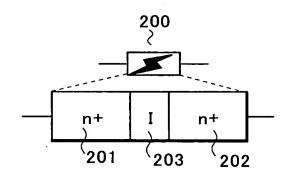


FIG.3A

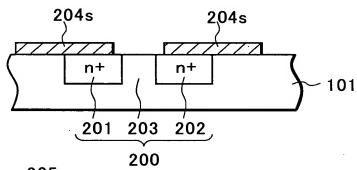


FIG.3B

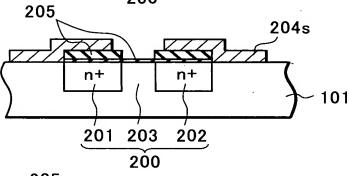


FIG.3C

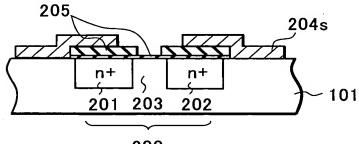


FIG.3D

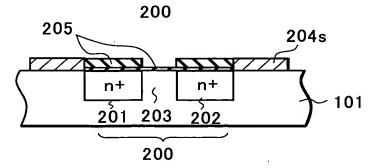


FIG.4A

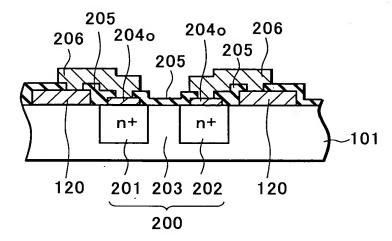
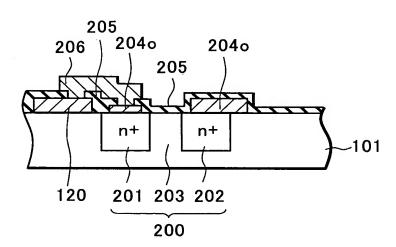


FIG.4B



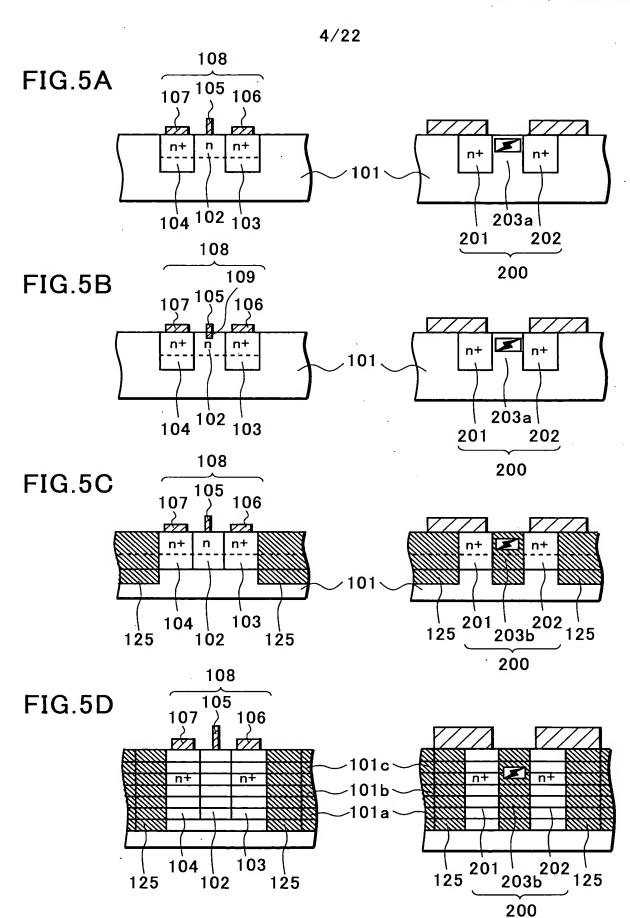


FIG.6

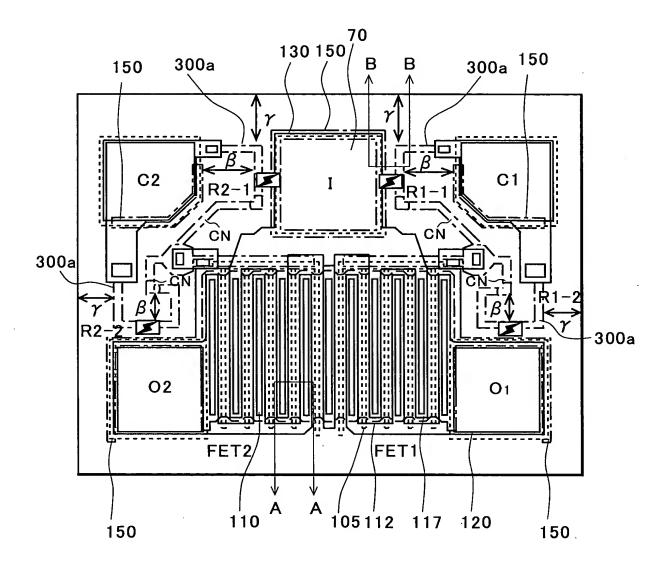


FIG.7A

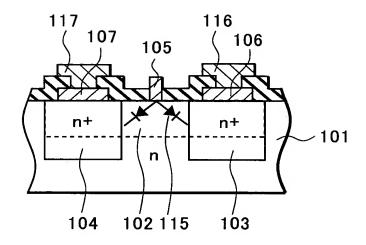


FIG.7B

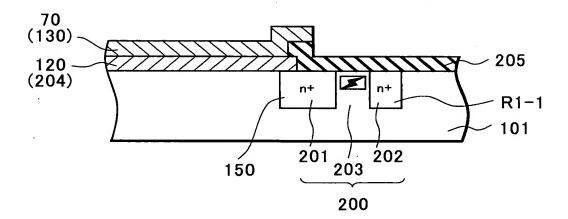


FIG.8

Electrostatic withstand voltage across respective terminals (unit: V)

IN — Ctl-1	. 700
IN — CtI-2	700
OUT1 — Ctl-1	700
OUT2 — Ctl-2	700

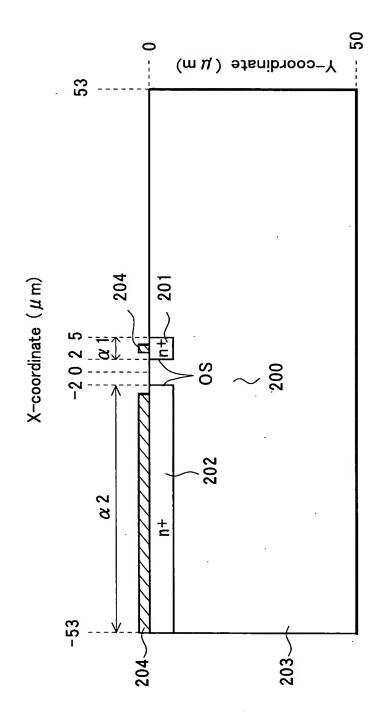


FIG.10

First n+ region Electron current density

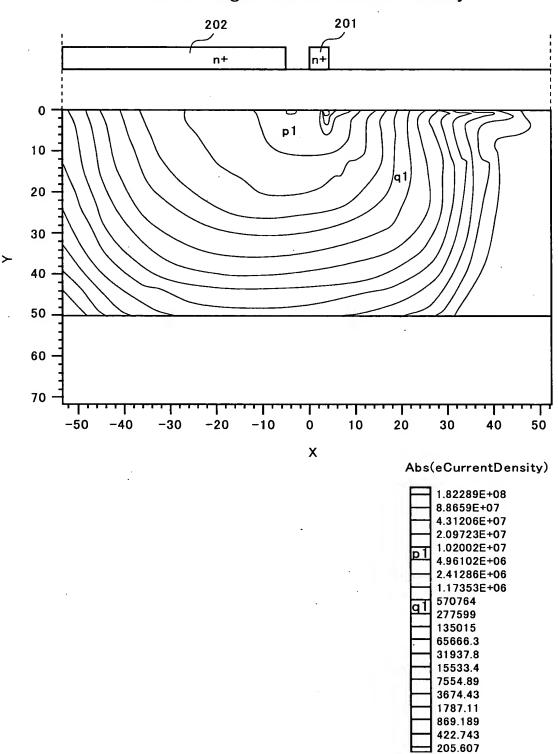
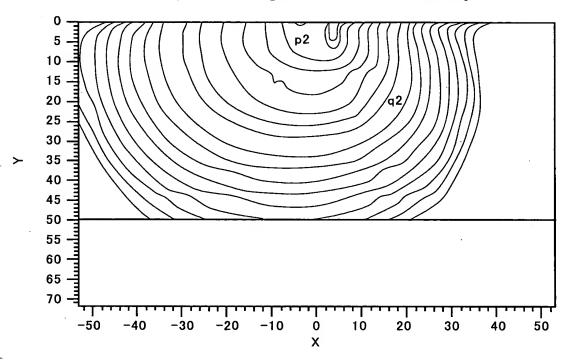


FIG.11

First n+ region Hole current density





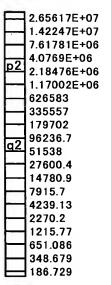
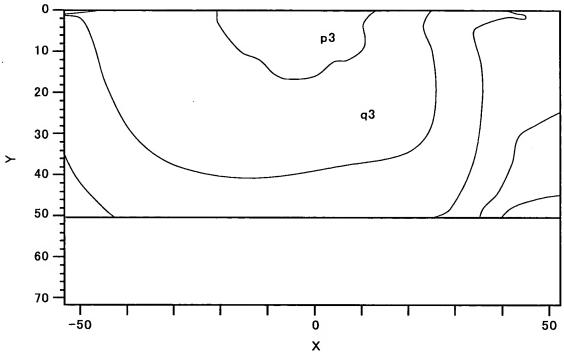


FIG.12





srhRecombination

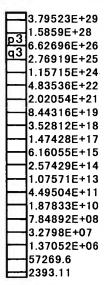


FIG.13A

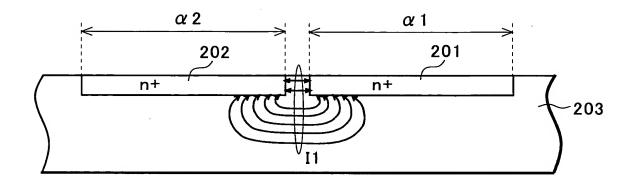


FIG.13B

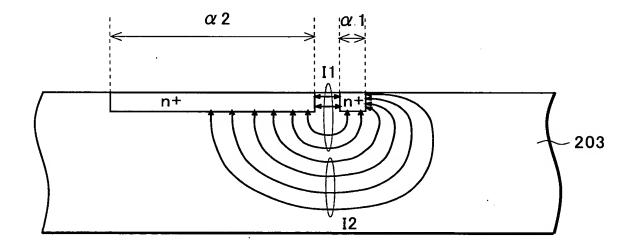


FIG.14

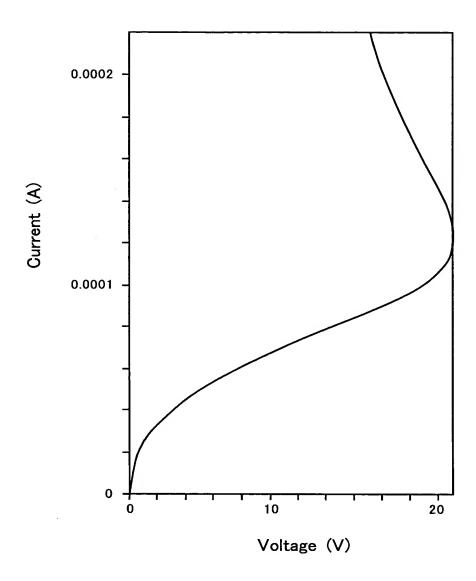


FIG.15

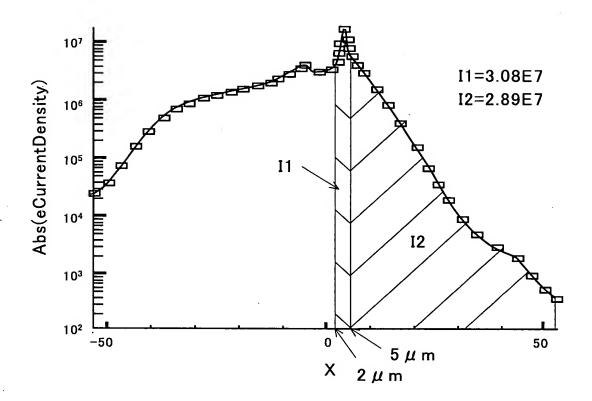


FIG.16A

Comparison of spreading of currents and recombination

	a-	struc	ture	b-s	tructi	ire-1	b-	struct	ure-2
Electron	y2	x0	Product	y2	x0	Product	y2	x0	Product
current density	21.9	10.5	230.0	26	15	390.0	23.8	11.3	268.9
Hole	y2	x0		y2	x0		y2	x0	
current density	13.7	6	82.2	23.9	12.5	298.8	12.7	7.4	94.0
Recombination	y2	x0		y2	x0		y2	x0	
density	29.7	14.8	439.6	33.1	20	662.0	33.9	15.5	525.5

FIG.16B

b-structure-3				
y2	×0	Product		
69	36.1	2490.9		
y2	×0			
47.9	29.1	1393.9		
y2	x0			
80 or more	43.9	3512 or more		

FIG.16C

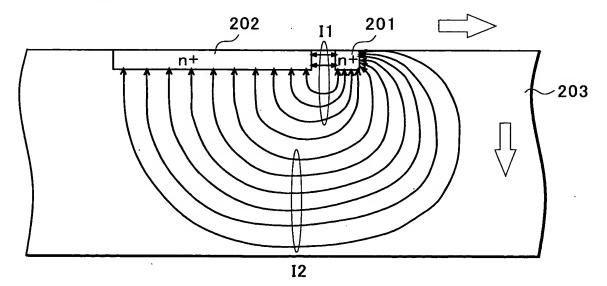


FIG.17

Relationship between the proportion of I2 and the width of the first n+ region

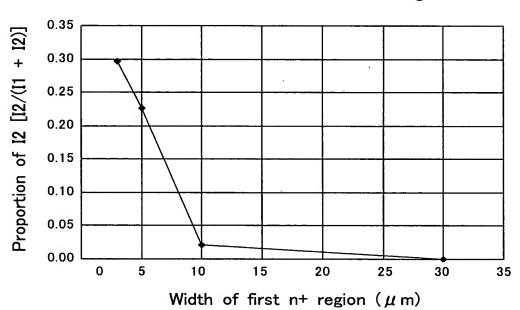


FIG.18A

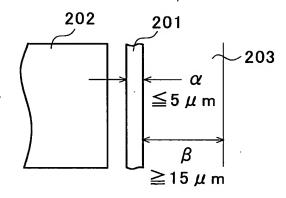


FIG.18B

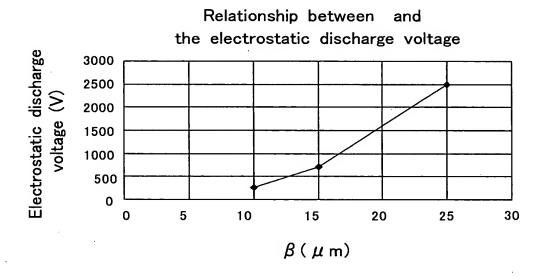


FIG.19A

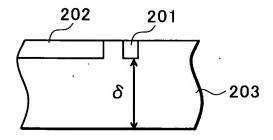


FIG.19B

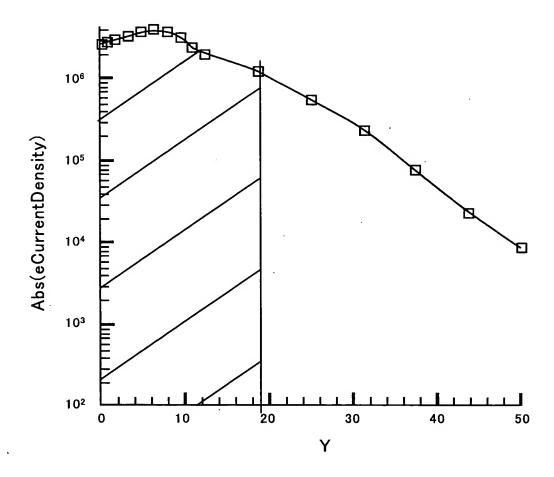


FIG.20B

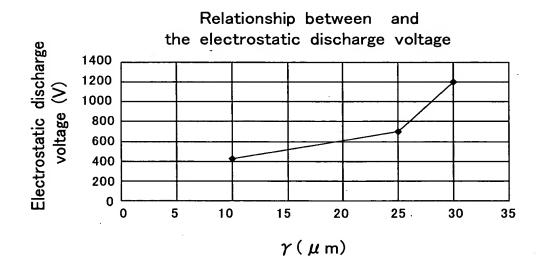
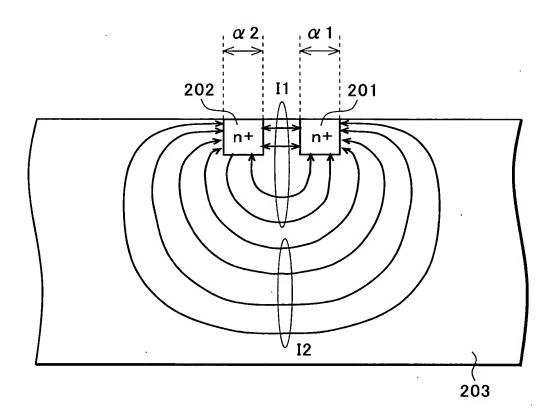
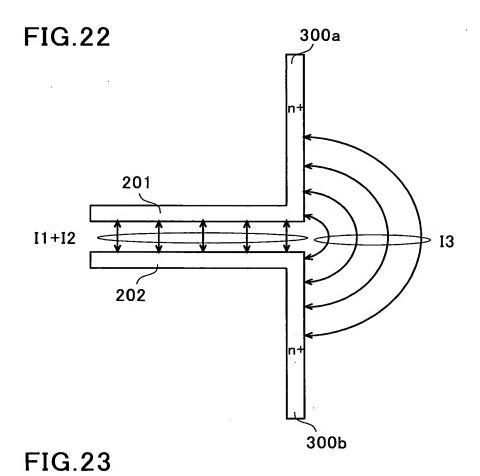


FIG.21





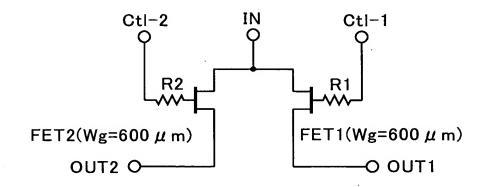


FIG.24

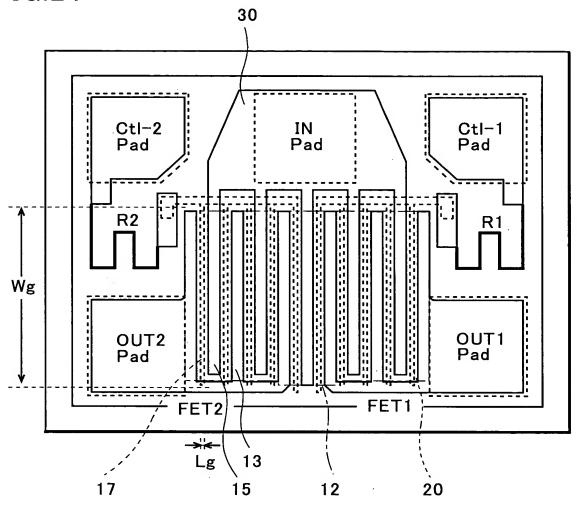


FIG.25

Electrostatic withstand voltage across respective terminals (unit: V)

IN — Ctl-1	140
IN — CtI-2	140
OUT1 — Ctl-1	500
OUT2 — Ctl-2	450